IN THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF OKLAHOMA

State of Oklahoma, et al.,))
Plaintiffs,	Case No. 4:05-CV-00329-GKF-PJC
VS.	<i>)</i>)
Tyson Foods, Inc., et al.,))
Defendants.)))

DEFENDANTS' RESPONSE TO PLAINTIFFS' MOTION IN LIMINE TO EXCLUDE PORTIONS OF DEFENDANTS' "EXPERT REPORT OF WILLIAM H. DESVOUSGES AND GORDON C. RAUSSER" AND RELATED TESTIMONY

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Defendants respectfully submit this brief in opposition to Plaintiffs' Motion in Limine to exclude portions of the report submitted by Drs. Desvousges and Rausser (Dkt. No. 2270). The Desvousges and Rausser expert report critiques and rebuts the report by Plaintiffs' experts Stratus Consulting. Defendants have moved to exclude any testimony regarding the Stratus Consulting Report. (Dkt. No. 2272.) If the Court grants Defendants' motion and excludes Stratus' unreliable testimony, Defendants will not offer the opinions of Drs. Desvousges and Rausser at trial, and the instant motion will be moot. If, on the other hand, the Court admits the contingent valuation study at trial, Defendants would be severely prejudiced if barred from presenting Drs. Desvousges and Rausser's alternative point of view.

Regardless, Plaintiffs' motion fails to provide any sound basis to conclude that Drs.

Desvousges and Rausser's testimony is irrelevant or unreliable. Instead, Plaintiffs' motion highlights the unreliability, lack of relevance, and speculation inherent in Stratus' use of contingent valuation to estimate damages. Plaintiffs' own recreational use intercept and telephone surveys — along with Drs. Desvousges and Rausser's analysis of recreational use and property values — demonstrate that Lake Tenkiller has *not* been harmed and that the users of the Lake continue to be satisfied with the environmental conditions. Plaintiffs' insistence that the use of a fictional proposed alum treatment results in a valid estimate of natural resource damages underscores that their contingent valuation survey does not fit the facts of the case and must be excluded. And Plaintiffs' dense argument regarding the statistical techniques used to calculate the average "willingness to pay" highlights the fact that contingent valuation as a methodology is neither well settled nor subject to consensus in the scientific community, and is subject to

¹ Plaintiffs' motion is supported by the substantive declarations of their experts Drs. Michael Hannemann (Dkt. Nos. 2270-23) and Barbara Kanninen (Dkt. Nos. 2270-5), which amount to improper bolstering and supplemental opinions beyond the scope of their disclosed expert reports. These declarations will be the subject of a forthcoming motion to strike.

manipulation and speculation. For these reasons, the Court should deny Plaintiffs' motion and admit the well reasoned and thoughtful critique by Drs. Desvousges and Rausser.

BACKGROUND

Plaintiffs, through their Stratus experts, used a contingent valuation survey to estimate that Defendants have caused over \$600 million in natural resource damages to the IRW. The survey consisted of a 98-page document of text and photos read aloud to a sample of randomly selected Oklahomans (the "Respondents"). (Stratus R. Appendix A: Dkt. No. 1883-9.) The survey described an alleged injury to the IRW and proposed a hypothetical solution to that injury. Respondents were then asked if they would hypothetically pay a given bid amount in additional state income taxes (known as willingness to pay) to implement the made-up solution. Each Respondent was given only one of six different bid amounts ranging between \$10 and \$405. The first time that 68% of the Respondents learned about any alleged injury to the IRW was from the Stratus survey. Almost half of the Respondents had never even visited Lake Tenkiller or the Illinois River. (Id. Appendix D, Tables D.14, D.15, D.17 at D-7: Dkt. Nos. 2278-7 to 2278-12.)

The State's contingent valuation survey was intended to measure "total values," including both "use" and "nonuse" values. Stratus defined "nonuse" values as values people place on natural resources for reasons other than personal use. Stratus' estimate does not distinguish between use and nonuse values. (Stratus R. at 1-4, 1-5: Dkt. No.1853-4.) Once Stratus had estimated damages based on its contingent valuation survey, it employed a so-called "benefits transfer" methodology to estimate past damages from the years 1981 to 2008. (Stratus R. on Past Damages at 1-2: Dkt. No. 1938-1.) This involved multiplying the average willingness to pay number from its contingent valuation survey by 27 years and including a compound interest rate

of 3.83%. (<u>Id.</u> at 7-8.) Drs. Desvousges and Rausser point out that this is an untested method that has not been peer reviewed or accepted by the scientific community. (Desvousges R. at 121-22: Dkt. No. 2272-8.)

In their critique of Stratus' work, Drs. Desvousges and Rausser show that the contingent valuation survey was not properly designed to measure losses caused by Defendants' alleged conduct, and that most visitors to the IRW do not perceive that the IRW has been injured or that they have suffered any harm. It is this ultimate conclusion that Plaintiffs wish to keep from the jury.

Drs. Desvousges and Rausser are immensely qualified to offer their expert opinions on the Stratus study and to arrive at conclusions based on their knowledge, experience, and considered materials. Dr. Desvousges holds a Ph.D. in economics, and has over 30 years of experience as an economist and has authored over 30 expert reports. (Desvousges R. Appendix F: Dkt. No. 2272-8.) His specialties include property valuation, natural resource damage assessment, and cost benefit analysis, and he has published nearly 60 papers on these subjects. (Id.) Dr. Rausser holds a Ph.D. in Agricultural and Resources Economics. He completed a postdoctoral fellowship at the University of Chicago, and is the Robert Gordon Sproul Distinguished Professor at the University of California, Berkeley. Id. Dr. Rausser has nearly 40 years of experience as an economist and has held senior positions in government, non-profit organizations, and academia. (Id.) Dr. Rausser dedicated much of his career to agricultural, natural resource, and environmental economics and published over 150 articles in refereed journals. (Id.) Indeed, Plaintiffs do not contest that Drs. Desvousges and Rausser are qualified to render their opinions in this case.

To rebut the Stratus contingent valuation estimate, Drs. Desvousges and Rausser

analyzed the data produced by the Stratus experts and also performed their own study to evaluate whether there existed any evidence that actual use of the lakes and rivers in the IRW had been impacted by the alleged diminution in water clarity. In so doing, Drs. Desvousges and Rausser evaluated the results of Stratus' telephone and recreational use intercept studies completed prior to the contingent valuation survey, in which Stratus interviewed actual users of the IRW. Stratus ultimately chose to exclude this data from its final damages calculations. (Id. at 1, 8-9, 6-14.) Drs. Desvousges and Rausser demonstrate that the Stratus telephone and intercept surveys confirmed that actual users of the IRW thought that it was one of the cleanest and clearest in Oklahoma, and that use of the IRW had skyrocketed during the period of time that Stratus contends the water clarity was impaired. (Id. at 14-16.)

Drs. Desvousges and Rausser also collected data on recreational uses over time in the IRW from public data sources, and ran a regression model to analyze whether recreational use at Lake Tenkiller had been affected by the alleged decrease in water clarity. (Id. at 14-19; Ex. A: 6/30/09 Errata at 1.) That regression model demonstrates that recreational use of Lake Tenkiller has been increasing because the lake is one of the clearest in Oklahoma. (Id. at 2.) Based on that analysis Drs. Desvousges and Rausser conclude that use of Lake Tenkiller has not been impacted by the alleged decrease in water clarity. (Ex. A: 6/30/09 Errata at 2-3.)

To further investigate whether alleged injuries to water quality in Lake Tenkiller has impacted residents of the area, Drs. Desvousges and Rausser collected and analyzed data on property transactions for single family residences near the lake during an fourteen year period, from 1995 to 2008. (Desvousges R. at 21: Dkt. No. 2272-8.) Based on that analysis there is no evidence that alleged water quality injuries have reduced property values near Lake Tenkiller. (Id. at 27.) For an additional benchmark, Drs. Desvousges and Rausser compared data on sales

transactions near portions of Lake Eufaula over the same period of time, since it is undisputed that portions of Lake Eufaula have not been impacted by phosphorus loading. (<u>Id.</u> at 25-26.)

Based on that analysis, Drs. Desvousges and Rausser again concluded there is no evidence that the alleged contamination has affected sales prices of properties near Lake Tenkiller. (<u>Id.</u> at 28.)

The remainder of Drs. Desvousges and Rausser's opinions consist of a critique of the Stratus report itself. Drs. Desvousges and Rausser noted that contingent valuation as used in this case is unreliable and subject to bias. (Id. at 4-5.) Drs. Desvousges and Rausser also critiqued the survey itself, noting that the results of the survey do not follow established economic principles and as a result the survey is subject to inherent bias. (Id. at 91-94.) Moreover, Drs. Desvousges and Rausser criticized the fictional alum treatment since it does not fit the facts of the case and affects a Respondent's willingness to pay. (Id. at 41-47.) Finally, Drs. Desvousges and Rausser are especially critical of Plaintiffs' "benefits transfer" back in time to calculate past damages — such a transfer has not been performed in the absence of historical environmental or use data to provide a foundation for the benefits measures. (Id. at 121-22.)

Perhaps in recognition of the quality of their analysis and qualifications, Plaintiffs do not attempt wholesale exclusion Drs. Desvousges and Rausser. Rather, Plaintiffs challenge the opinions in Chapters 2, 3, and portions of Chapter 4.

STANDARD OF REVIEW

Scientific evidence must be both reliable and relevant to be admitted. Fed. R. Evid. 702. It is the Court's role to determine whether proffered expert testimony is scientifically valid and thus reliable. In re Williams Sec. Litig. -WCG Subclass, 558 F.3d 1130, 1137 (10th Cir. 2009) (quoting Daubert v. Merrell Dow Pharm., 509 U.S. 579, 592-93 (1993)). Proposed testimony must also be sufficiently tied to, or "fit," the facts of the case. Mitchell v. Gencorp Inc., 165 F.3d

778, 781 (10th Cir. 1999), citing, Daubert, 509 U.S. at 591.

The Court should specifically consider reliability to evaluate admissibility. <u>Kumho Tire</u>

<u>Co. Ltd. v. Carmichael</u>, 526 U.S. 137, 152 (1999). A court should consider whether the science and methodology behind the offered testimony: (1) can be and has been empirically tested; (2) has been subjected to peer review and publication; (3) has a known or potential rate of error; and (4) has gained general scientific acceptance in the relevant scientific community. <u>Daubert</u>, 509 U.S. at 593-594.

ARGUMENT

Plaintiffs' motion is a shopping list of quibbles picking at various conclusions in Drs.

Desvousges and Rausser's Report. While Plaintiffs are entitled to disagree with those conclusions, such disagreements do not provide a basis to exclude any part of their report. See Daubert, 509 U.S. at 597. As described below, Plaintiffs' challenges to Drs. Desvousges and Rausser's opinions regarding the recreation model, hedonic model, hypothetical alum treatments, scope test, econometric analyses, and the past damages report are all based on sound methodologies and are reliable. In addition, Drs. Desvousges and Rausser are entitled to reach conclusions supported by their analyses – just because Drs. Desvousges and Rausser are critical of the Stratus report does make their critiques "nothing more than speculation." (See Dkt. No. 2270 at 15.)

A. Drs. Desvousges and Rausser's Recreation Model Demonstrates that Visitation at Lake Tenkiller has Not Been Impacted by Alleged Decreases in Water Quality.

Drs. Desvousges and Rausser's regression model allows the Court to compare the Oklahomans actual behavior to their answers to the hypothetical questions in the Stratus survey. (Desvousges R. at 16-17: Dkt. No. 2272-8.) A common criticism of contingent valuation is that it relies on what people say they would do rather than on actual behavior. (See NOAA Panel R.

at 10: Dkt. No. 2278-6.) Desvousges and Rausser's regression use model provides the Court with *actual* recreation data that allows it to compare visitation at lakes around Oklahoma. (Desvousges R. at 14-15: Dkt. No. 2272-8.) This testimony will enable a comparison between the Stratus contingent valuation study (what people say they would do), and the actual behavior of Oklahoma residents visiting the IRW (what people really do). Actions speak louder than words. Here, the recreational use data demonstrates that recreators prefer Lake Tenkiller since it is one of the clearest lakes in Oklahoma. (Ex. A: 6/30/09 Errata at 2.)

To perform the regression analysis, Drs. Desvousges and Rausser entered extensive data from the Army Corps of Engineers for lakes in Oklahoma into a computer program. That data included numbers of visitors, lake depth, clarity, and other factors. Plaintiffs allege three minor inputting errors associated with the regression analysis Drs. Desvousges and Rausser ran on recreational data provided by the Army Corps of Engineers, referring to two of these errors as "miscoding" and one as an omission. (Pls.' Mot. in Limine at 4-6: Dkt. No. 2270.) As Plaintiffs correctly pointed out, three numbers – out of the thousands of numbers entered – were incorrectly inputted into the computer model. (Ex. D: Desvosuges Dep at 169:10-171:9.) Drs. Desvousges and Rausser corrected the three errors in an errata issued on June 30, 2009. None of the minor errors changed their conclusion that actual users enjoy recreating Lake Tenkiller and the number of users is increasing more than at other lakes in Oklahoma. (Ex. A at 2; Desvousges R. at 15: Dkt. No. 2272-8.)³

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² NOAA put together a panel of economists to evaluate the potential uses of contingent valuation in natural resource damages calculations. That panel published a report that suggested guidelines for the appropriate use of contingent valuation.

³ The June 2009 Errata is the second errata from Drs. Desvousges and Rausser. The June 2009 Errata does not provide new testimony or analysis, it simply corrects the three coding errors pointed out to Dr. Desvosuges in his deposition. Ex. D: Desvosuges Dep. at 169:10-171:9. As stated above, the corrected data showed a correlation between lake clarity and visits, but this did

Error 1:

In their model, Drs. Desvousges and Rausser mistakenly entered a wrong visitation number — instead of 2,924,047, a digit was dropped and Drs. Desvousges and Rausser entered 294,047. (See Ex. D: Desvosuges Dep at 169:10-171:9.) By correcting this error in their June 30 errata, Drs. Desvousges and Rausser demonstrate a significant positive association between lake clarity and visitation. (See Pls.' Motion in Limine at 5: Dkt. No. 2270.) Lake Tenkiller had the second highest level of water clarity in this sample during the time period. (Ex. A: 6/30/09 Errata at 2.) The correction supports the conclusion that Lake Tenkiller has not been impacted by reductions in water quality and that recreators have not experienced any potential losses from alleged pollution due to the application of poultry litter. (Id.)

Error 2:

Drs. Desvousges and Rausser also corrected in the June 30 errata the second instance of "miscoding," the missing lake depth of Fort Supply Lake. Adding the lake depth to the recreation model does not change the conclusions discussed above. (Id. at 2-3.)

Error 3:

Plaintiffs also claimed that Drs. Desvousges and Rausser omitted Broken Bow data. (Pls.' Motion in Limine at 5: Dkt. No. 2270.) The data that was "omitted" was not available at the time the recreation model was created. Dr. Desvousges added that information once available, which confirms that Lake Tenkiller has not been impacted by reductions in water quality and that recreators have not experienced any potential losses caused by the alleged pollution from the application of poultry litter. (Ex. A: 6/30/09 Errata at 1.)

In sum, Lake Tenkiller use has increased since 2000, supporting the conclusion that

not change Drs. Desvousges and Rausser's conclusion that recreators at Lake Tenkiller have not suffered an injury as a result of the alleged phosphorus loading. Ex. A at 2-3.

recreation at Lake Tenkiller has not been impacted by reductions in water quality. (Id. at 2-3.) Inadvertent coding errors are not sufficient grounds to strike Drs. Desvousges and Rausser's testimony. Because their underlying principles and methodologies meet the relevance and reliability requirements of Rule 702 and <u>Daubert</u>, the Court should deny Plaintiffs' motion to exclude.

B. Drs. Desvousges and Rausser's Hedonic Model Appropriately Isolated the Trends in Property Values.

Drs. Desvousges and Rausser analyzed property value trends at Lake Tenkiller and Lake Eufaula to determine if the alleged phosphorus loading had an effect on property values at Lake Tenkiller compared to the portion of Lake Eufaula where there is no alleged phosphorous contamination. (Desvousges R. at 21.) Drs. Desvousges and Rausser's analysis of property values at Lake Tenkiller, as compared to the portion of Lake Eufaula described above, shows that property values at Lake Tenkiller have increased over the last fourteen years, despite the State's allegation that Lake Tenkiller has been adversely impacted by phosphorus loading. (Id.) Plaintiffs' arguments concerning the property value evaluation are based on a misunderstanding of its purpose, mischaracterizations of academic literature, and misrepresentations of Dr. Rausser's deposition testimony. (See Ex. G: Rausser Declaration at ¶ 5, 9-17.)

Plaintiffs misrepresent the purpose and scope of the model by arguing that Drs.

Desvousges and Rausser did not consider every variable when comparing the two lakes, essentially arguing that their hedonic model is unreliable because Lake Eufaula is not identical to Lake Tenkiller. This contention goes to the weight of the testimony – not the admissibility – because the purpose was to compare trends in home prices, not the differences in property values themselves. See Daubert, 509 U.S. at 595 (the focus of a Rule 702 inquiry should be on the principles and methodology, not the conclusions); (Desvousges R. at 21: Dkt. No. 2272-8.)

Criticisms that Drs. Desvousges and Rausser failed to consider every variable that could affect property values are inapposite, especially when the purpose was to investigate whether property values declined at or near Lake Tenkiller as a result of an alleged reduction in water quality or other aesthetic effects. (Desvousges R. at 21: Dkt. No. 2272-8.)

As indicated by Dr. Taylor's non-peer reviewed article cited by Plaintiffs, "[r]esearchers must use their knowledge of the market to determine what characteristics are relevant for determining price in their market." (Ex. G: Rausser Decl. ¶¶ 9-10.) In other words, the relevant variables depend on the purpose of the study. (Id. at ¶ 10.) Academic literature demonstrates this point. (Id. at ¶ 11.) The McClusky and Rausser paper cited by Plaintiffs is a perfect example. In that case, the authors measured the effect of distance from a polluted area on house values and it was therefore necessary to control for neighborhood characteristics that varied with distance that could also have affected house prices. (Id. at ¶ 12.) This type of analysis is irrelevant to the price trend comparison performed by Desvousges and Rausser. The inclusion of variables that do not change over time are simply not relevant to the analysis performed by Desvousges and Rausser because it evaluated house price movements over time between Lake Tenkiller and Lake Eufaula. (Id. at ¶ 15.) Furthermore, neither the presence of a casino in Eufaula, Oklahoma, nor the demographic differences alleged by Plaintiff are relevant to the Desvousges/Rausser analysis. Id. at ¶¶ 16, 17.)

To test whether property values near Lake Tenkiller were affected by alleged phosphorus loading, property values over a fourteen-year period were compared with those at the portion of Lake Eufaula that is not allegedly contaminated with phosphorus. (Desvousges R. at 21: Dkt. No. 2272-8.) The point of the exercise was to compare lakes that are similar options for vacation homes; both lakes are approximately the same distance from Tulsa International Airport and

from Oklahoma City, both are managed by the Army Corps of Engineers, and both offer similar recreation opportunities. (Id.) Other experts have performed similar studies comparing water clarity and property values across state lines and between lakes of different sizes. Julie P. Gibbs, John M. Halstead, Kevin J. Boyle, & Ju-Chin Huang, An Hedonic Analysis of the Effects of Lake Water Clarity on New Hampshire Lakefront Properties, Agricultural and Resource Economics Review 31(1) at 39-46 (2002): Dkt. No. 2270-20

Drs. Desvousges and Rausser used their property analysis to test two hypotheses about the effect of changes in water clarity at Lake Tenkiller:

[I]f there was an increasing water quality problem over time at Tenkiller Lake that was not present at Eufaula Lake, then we would expect to find homes at Tenkiller Lake to appreciate at a slower rate than homes on Eufaula Lake, or possibly decline. In other words, as the (theoretical) water quality problem at Tenkiller Lake worsened, the effect on home price would become relatively negative.

(Desvousges R. at 11: Dkt. No. 2272-8.)

[E]ven if Eufaula Lake and Tenkiller Lake were not comparable lakes, i.e., there are characteristics that differentiate the two lakes, we would expect that as the alleged phosphorus problem worsened over time, the relative effect on home prices would be negative."

(Id. at 22.) Unlike the hedonic models referred to in Plaintiffs' Motion, Drs. Desvousges and Rausser were not comparing property values between Lake Eufaula and Lake Tenkiller, they were comparing price trends in two potential second home markets near Tulsa. (Ex. B: Rausser Dep. at 81:18-82:17 (stating that he evaluated the movement of homes from sellers to buyers (i.e., flow of transactions) at Lakes Tenkiller and Eufaula).) The expectation that poor water quality would lead to lower property values is valid, studies have found that poorer water quality led to reduced property values. Desvousges R. at 22: Dkt. No. 2272-8, citing Gibbs, supra at 36-45; and P. Joan Poor, Keri L. Pessagno & Robert W. Paul, Exploring the hedonic value of ambient water quality: A local watershed-based study, Ecological Economics 60, 797-806

(2007).

Drs. Desvousges and Rausser found that the alleged changes in water clarity have not had a negative impact on property values at Lake Tenkiller. When compared to properties at Lake Eufaula, property values around Lake Tenkiller went up over time and showed no negative impact from alleged water quality problems. (Desvousges R. at 25: Dkt. No. 2272-8.) Drs. Desvousges and Rausser concluded that the alleged reduced water quality at Lake Tenkiller has not resulted in a less desirable place to live and recreate. (Id. at 27-28.)

Plaintiffs' argument that the lakes are dissimilar is a dispute about *facts*, not about methodology, qualifications, or relevance. The point of the hedonic study was that there is no evidence over the last fourteen years that water clarity has had a negative impact on property values at Lake Tenkiller. This conclusion casts doubt upon Plaintiffs' damages estimate, and calls into question whether any injury has in fact occurred.

C. Desvousges and Rausser's Critique of the Alum "Remedy" Is Highly Relevant Because the Measure of Natural Resource Damages Is Based on the Restoration Plan Cost.

The stated purpose of Plaintiffs' contingent valuation survey was to estimate what Oklahomans were willing to pay for "a hypothetical alum treatment program that would return the flow of services from the Illinois River system and Tenkiller Lake to their 1960 condition 40 years sooner than without the program." (Pls.' Motion in Limine at 1-2: Dkt. No. 2270; Stratus R. at 109: Dkt. No. 1853-4.) Plaintiffs' argument that Drs. Desvousges and Rausser's opinions on this same alum treatment are <u>irrelevant</u> is simply baseless. (See Pls.' Motion in Limine at 13.)

First, the chosen cleanup time frame necessarily affects the willingness to pay estimate.

In fact, Plaintiffs' experts, Drs. Bishop and Krosnick, admit that the hypothetical cleanup

timeframes they chose *do* impact a Respondent's willingness to pay. Krosnick Dep. at 153:22-155:2 (recovery time had an impact on willingness to pay), 122:15-18 (the results of the contingent valuation survey could have been different if the recovery times had been different in the proposed solution): Dkt. No. 2272-14; Bishop Dep. at 65:2-67:4 (the rate of hypothetical restoration could have affected willingness to pay and damages): Dkt. No. 2272-5. Thus, Drs. Desvousges and Rausser's critique of the time frame is probative and will assist the Court in evaluating the Stratus survey.

Moreover, Desvousges and Rausser's criques are relevant because Plaintiffs must choose a restoration plan to calculate damages under CERCLA and the NRD regulations. The measure and use of damages arising from the release of hazardous substances is restricted to accomplishing CERCLA's essential goals of restoration or replacement, while also allowing for damages due to the interim loss of use. New Mexico v. Gen. Elec. Co., 467 F.3d 1233, 1244-45 (10th Cir. 2003); see H.R. Rep. No. 99-253 (IV) at 50 (1985); accord Ohio v. U.S. Dep't of Interior, 880 F.2d 432, 454 & n. 34 (D.C. Cir. 1989). The proposed restoration plan is an integral part of the measure of damages under CERCLA and the applicable regulations. 42 U.S.C. § 9607(f)(1); 43 C.F.R. § 11.10. The Tenth Circuit held that public policy, as reflected in CERCLA, demands that "environmental protection and preservation be the primary, if not the sole, objective of natural resource damage valuation." New Mexico, 467 F.3d at 1247 (quotation omitted).

The use of anything other than the actual restoration plan to calculate damages flies in the face of Congressional intent. "Congress intended restoration costs to be the basic measure of recovery for harm to natural resources" therefore, it follows that it is essential that for the proper measure of damages to be calculated, Plaintiffs must calculate the *actual restoration costs*. Ohio

v. United States Dep't of Interior, 880 F.2d 432, 450 (D.C. Cir. 1989). Yet, here, there is no dispute that the alum treatment described in the survey is pure fiction. (Pls.' Motion in Limine at 14: Dkt. No. 2270.) Plaintiffs' remediation expert, Todd King, rejected alum as a viable treatment option due, in part, to alum's potentially damaging impacts on aquatic ecosystems. King R. at 12, 16, 19: Dkt. No. 1976-16; see also Motion in Limine: Dkt. No. 2270 at 14 ("it is standard practice in CV surveys to introduce counter-factual information..."). The feasibility of the restoration plan used to calculate damages matters because a fictional plan cannot be used to calculate damages; to do so is pure speculation. The Court should not exclude Drs. Desvousges and Rausser's highly probative opinions on this issue.

D. Drs. Desvousges and Rausser Are Entitled to Reach Fair Conclusions About the Contingent Valuation Survey.

Drs. Desvousges and Rausser have the expertise to comment on and draw conclusions regarding various forms of economic analysis, including contingent valuation. Plaintiffs claim that Drs. Desvousges and Rausser offered a number of opinions on contingent valuation that are based solely on speculation. (Pls.' Motion in Limine at 15-17: Dkt. No. 2270.) Drs. Desvousges and Rausser's critiques of contingent valuation are fair and logical conclusions that experts are entitled to make based on experience, analysis, and familiarity with the widely accepted conventions of economics and natural resource damages assessments. As experts, they are uniquely qualified to help the Court evaluate the methodology behind the Plaintiffs' damages assessment. Daubert, 509 U.S. at 594-95.

1. <u>Drs. Desvousges and Rausser's rebuttal opinions about the Stratus survey are not the proper subject of a Rule 702 challenge.</u>

Plaintiffs claim that Drs. Desvousges and Rausser offered a number of opinions on contingent valuation that are based solely on speculation. Motion in Limine at 15-17: Dkt. No.

2270. In fact, the opinions to which Plaintiffs object are simply logical conclusions based on information in the Stratus report itself or valid critiques of the survey based on Drs. Rausser and Desvousges' expertise. Drs. Desvousges and Rausser have the expertise to comment on and draw conclusions regarding various forms of economic analysis, including contingent valuation. Drs. Desvousges and Rausser's critiques of the Stratus report and the Stratus contingent valuation survey are fair and logical conclusions that experts are entitled to make based on experience, analysis, and familiarity with the widely accepted conventions of economics and natural resource damages assessments. As experts, they are uniquely qualified to help the Court evaluate the methodology behind Plaintiffs' damages assessment. See Daubert, 509 U.S. at 594-95.

The opinions with which Plaintiffs take issue are the exact types of opinions that experts like Desvousges and Rausser are qualified to make to rebut the statements in the Stratus survey. They are simply proper rebuttal testimony. For example, Plaintiffs complain about Drs. Desvousges and Rausser's statement that "the Stratus team chose the CV methodology because they were purportedly unhappy with the results of the preliminary intercept study and telephone survey." (Pls.' Motion at 15: Dkt. No. 2270.) This statement follows from the facts and materials in the case, including communications between Stratus experts. (See Morey Dep. Ex. 5: Dkt. No. 2272-2 (Dr. Morey's response to the phone survey: "if estimated damages are to be significant, people will have to be educated about the injuries...").)

The telephone and intercept surveys provide strong evidence that water quality and recreational use in the IRW have not suffered any injury. Those two studies asked users of Lake Tenkiller a variety of questions about recreation and water quality at the lake and demonstrated that users had very *good* impressions of water quality. (Bishop Dep. at 94:2-15: Dkt. No.2272-5;

Morey Dep. at 34:12-35:6: Dkt. No.2272-6.) In fact, only 3% of intercept survey respondents mentioned poor water quality of the Lake (none mentioned clarity) and only 1.2% mentioned poor water quality of the Illinois River, most of whom were actually referring to debris in the water, not water quality. (Desvousges R. at 7-8: Dkt. No. 2272-8; Tourangeau Dep. Ex. 3, Intercept Survey at 9: Dkt. No. 2278-13.) The contingent valuation survey was performed after these two initial surveys. And the final damages number calculated by Stratus does not provide any specific indications of losses by users from any source, including the telephone or intercept survey. (Desvousges R. at 1: Dkt. No. 2272-8.) By all appearances, Plaintiffs would not have been excited about the results of the telephone and intercept surveys and preferred the results of the contingent valuation survey. Drs. Desvousges and Rausser's conclusion that Plaintiffs choose the CV methodology because they were unhappy with the results of the earlier studies is a reasonable inference to draw from the evidence.

Similarly, all of the other opinions set forth in pages 15 to 17 of Plaintiffs' Motion are proper conclusions.

- Desvousges and Rausser are qualified to discuss the impact they think the photos
 would have on Respondents and are qualified to testify that they think those photos
 would leave an indelible impression on the viewer.
- The survey instrument told Respondents that they should assume the court had entered an injunction. Therefore, it is reasonable for Desvousges and Rausser to conclude that Stratus misled respondents since the Court has in fact not imposed a ban.
- Some Respondents told Stratus that they did not think that the phosphorus ban would occur. Therefore, Drs. Desvousges and Rausser could fairly conclude that those Respondents were valuing a different commodity.
- Drs. Desvouges and Rausser do cite support for their conclusion that a respondent may be more inclined to vote for the fictional alum solution when he must vote in the presence of an interviewer, resulting in a higher average willingness to pay. In addition, they are qualified to draw that conclusion based on their expertise.

- Drs. Desvouges and Rausser are qualified to opine about the effectiveness of the scope test, including their opinion that fewer respondents may have voted in favor of the hypothetical solution in the scope test because the Respondents did not believe that the remediation would work.
- Drs. Desvouseges and Rausser devote an entire section of their report to their conclusion that the non-response rate in the Stratus survey was below the ranges considered acceptable by both NOAA and OMB. Therefore their conclusion that the survey contains nonresponse bias is reasonable.
- Drs. Desvouges and Rausser were aware that there was media coverage of the alleged algae problem after the suit was filed. It is reasonable to conclude that such media coverage would have increased awareness of the algae conditions in the Lake.
 - 2. <u>Drs. Desvousges and Rausser's scope test analysis indicates that under the NOAA guidelines the contingent valuation survey may be unreliable.</u>

Plaintiffs argue that Drs. Desvousges and Rausser did not use a "statistical" test when performing a scope test analysis on Stratus' contingent valuation survey. (Pls.' Motion: Dkt. No. 2270 at 17.) A scope test measures the sensitivity of the willingness to pay from a contingent valuation survey to changes in the size of the injuries described (i.e., if the scope of the injury is smaller the willingness to pay should be smaller as well). (Desvosuges R. at 62: Dkt. No. 2272-8.) Plaintiffs complains that Drs. Desvousges and Rausser's scope test analysis, which compared the relationship between estimated confidence intervals (the range of willingness to pay values) from the scope and main surveys, was "not a proper test." (Pls.' Mot. at 17.) But the NOAA advisory panel on contingent valuation does not require any particular method to measure the sensitivity of a contingent valuation survey. The NOAA panel would find any survey "unreliable" if it did not show adequate responsiveness to the scope test. (NOAA Panel R at 37: Dkt. No. 2278-6.)

Sufficiently overlapping confidence intervals are a sign that a contingent valuation survey is not sensitive enough to measure the willingness to pay for a given environmental harm.

(Desvosuges R. at 69: Dkt. No. 2272-8; Ex. E: Elena Ojea and Maria L. Loureiro, Valuation of

3. Plaintiffs' arguments regarding elasticity are based on new testimony and should be excluded.

Plaintiffs base the entirety of their argument on the elasticity of the willingness to pay measure on the Kanninen and Hanemann Declarations. (Pls.' Mot. at 22-24: Dkt. No. 2270.) As noted above, this testimony is new and outside the scope of Kanninen and Hanemann's work in this case. These declarations will be the subject of a forthcoming Motion to Strike.

E. The Issues Surrounding Econometric Analysis Regard an Unresolved Academic Dispute that Demonstrates Why Plaintiffs' Use of Contingent Valuation Here Is Unreliable.

There is an academic debate between Plaintiffs' and Defendants' experts regarding the use of estimators.⁴ This debate is a sideshow, it does not undermine the relevance or reliability of Drs. Desvousges and Rausser's testimony.

As part of the show, Plaintiffs obtained an e-mail from an author recanting his previous position. (Pls.' Motion at 19: Dkt. No. at 2270.) Such an e-mail is of course not a sworn statement nor a peer reviewed article. See Fed. R. Evid. 801(c). Plaintiffs seek to distract the

⁴ Estimators use the Respondents' responses to the proposed bid amounts to calculate an average willingness to pay. <u>See</u> Desvousges R. at 91-92; Dkt. No. 2272-8.

Court from a critical fact: the willingness to pay estimates from Stratus' survey do not follow established, basic economic principles. Economic principals hold that as the bid amounts in a contingent valuation survey increase, the percentage of respondents willing to pay that amount should decrease. In the Stratus survey however, the percentage of Respondents willing to pay \$125 to clean up Lake Tenkiller was *greater* than the percentage of Respondents willing to pay \$80. Drs. Desvousges and Rausser point out that this result is contrary to common sense and fundamental economic principals. (Desvousges R. at 91-92; Dkt. No. 2272-8.)

The key output in the contingent valuation survey is the estimate of the average willingness to pay, and the estimate of the average willingness to pay depends on an estimator in cases where the data does not follow economic principles. If the survey data followed fundamental economic principles, there would be no debate regarding the proper estimator because both Turnbull and ABERS would return the same average willingness to pay. But in this case, the Turnbull and ABERS produce different willingness to pay results. The purpose of Drs. Desvousges and Rausser using the Turnbull estimator is to illustrate that, here, willingness to pay is sensitive to the estimator selection and that the Turnbull estimator produces a more conservative willingness to pay. (See Desvosuges R. at 94: Dkt. No. 2272-8.) That the choice between the two estimators makes a material difference underscore the unreliability of using contingent valuation in a case like this, see Daubert; 509 U.S. at 593-94, especially given that contingent valuation has no known margin of error.

The debate regarding Turnbull and ABERS is only important insofar it highlights the unreliability of contingent valuation. The underlying data is so unusual that the decision between the two approaches to estimating willingness to pay produce different results. The fact that the decision between the two makes a difference shows that contingent valuation as a

methodology is inherently unreliable under <u>Daubert</u> due to the lack of consensus regarding critical elements of the process and its sensitivity to data processing techniques <u>See Daubert</u>, 509 U.S. at 593-594.

Stratus has repeatedly argued that its willingness to pay is conservative. (Stratus R. at ES-1, 1-9, 7-7: Dkt. No. 1853-4; Hanemann 219:24-220:10: Dkt. No. 2272-7; Morey Dep. at 138:24-139:23: Dkt. No. 2272-6 ("I mean, it's just the way to go to be conservative and to not have your damage estimate pushed up on the basis of some modeling assumption about data points, what the model is doing or what the data is doing or data you don't observe"). Drs. Desvousges and Rausser argue that Stratus should have used the Turnbull estimator, as interpreted by Haab and McConnell, because it produces a more conservative estimate of willingness to pay in this case. (See Desvousges 3/29/2009 Errata (the Turnbull estimator always produces a willingness to pay that is equal to or lesser than the willingness to pay produced by the ABERS estimator): Dkt. No. 2270-4.) Here, using the most conservative estimator is desirable given other biases in the survey that would result in a higher willingness to pay, and given the fact that the data does not follow normal economic expectations. (Desvousges R. at 93-94: Dkt. No. 2272-8.)

Whether "Turnbull and ABERS approaches are identical when the data are single-bounded, as here," is not an issue for the Court to decide here. (See Pls.' Motion in Limine: Dkt. No. 2270 at 21.) These are highly technical issues on which there is no consensus, but Drs. Desvousges and Rausser's opinions on the matter are not a basis to exclude their testimony. The divergent opinions and lack of consensus concerning how to estimate average willingness to pay underscores the inherent unreliability of the contingent valuation methodology, and supports the conclusion that the Court should strike the Stratus damages report. There are too many modifiers

and unresolved issues in the contingent valuation process. In short, it is unreliable. See <u>Daubert</u>, 509 U.S. at 596 ("[c]onjectures that are probably wrong are of little use, however, in the project of reaching a quick, final, and binding legal judgment").

F. Drs. Desvousges and Rausser's Opinions on Past Damages Are Especially Relevant to the Facts in this Case.

Plaintiffs seek to extrapolate willingness to pay for use and *nonuse* values back in time. Stratus R. on Past Damages at 1-2: Dkt. No. 1853-4. Stratus knowingly chose to measure "total values" even though they had an opportunity to directly determine use values based on their own intercept and telephone surveys and on publicly available use data. (Desvousges R. at 1.) Drs. Desvousges and Rausser opine that Plaintiffs' transfer of use and nonuse values back in time, without any benchmarks or historical environmental or use data to ground the willingness to pay estimate, is pure speculation, and they cite to several peer review articles that similarly find that an attempt to transfer an average willingness to pay backward in time is unreliable. (Desvousges R. at 121: Dkt. No. 2272-8.)

Plaintiffs' instant arguments misrepresent Dr. Desvousges' work on benefits transfer.

(See Pls.' Motion in Limine: Dkt. No. 2270 at 24-25. Dr. Desvosuges' work in the Fox River matter is substantially different than Plaintiffs' work in this case. In the study that Plaintiffs cite, Dr. Desvosuges only transferred use values, which are far more concrete than nonuse values, back in time. William H. Desvosuges et al., Lower Fox River and Bay of Green Bay:

Assessment of Potential Recreational Losses and Restoration Offsets, 15-16 (2000): Dkt. No. 2270-28. Dr. Desvosuges had at his disposal decades of hard data on past behavior and fishing activity. (Id. at 4-5.) This concrete data on the use of the Fox River provided a foundation for his benefits transfer. Past damages estimates based on the transfer of use values are far more reliable because use values can be externally validated, and are directly measurable. Ex. F:

Desvosuges Declaration at ¶¶ 5, 6.

Plaintiffs also mischaracterize the EPA study on the CAA. In that case, like Dr. Desvosuges' Fox River work, the benefits transfer was possible because past environmental quality data was available over the time period in question. U.S. EPA, The Benefits and Costs of the Clean Air Act, 1970 to 1990, (1997), available at http://www.epa.gov/air/sect812/copy.html. The EPA said the following regarding the importance of the historical data:

[T]he analysis returned to a foundation based on actual historical conditions and data. Specifically, actual historical air quality monitoring data from 1970 to 1990...[t]his approach took advantage of the richness of the historical data on air quality, provided a realistic grounding for the benefit measures, and yet retained the analytical consistency conferred by using the same modeling approach for both scenarios.

<u>Id.</u> at 5 (emphasis added). In this case, there is no past data available regarding preferences for improved water quality (the preference the contingent valuation survey purports to measure), and there is no data regarding past environmental conditions in the IRW. (Desvousges R. at 123: Dkt. No. 2272-8.) Without data on past preference for improved water quality or past environmental conditions, both of which would affect willingness to pay, the extrapolation of the current willingness to pay is anything but a scientifically defensible exercise.

CONCLUSION

For all these reasons, the Court should deny Plaintiffs' motion to exclude portions of the opinions of Drs. Desvousges and Rausser. Their opinions are reliable and highly relevant to issues before the Court, and will aid in evaluating the natural resource damages calculation offered by Plaintiffs.

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I	certify	that	on th	ie	day of		, 2009,	Ι	electronically	transmitted	the	attached
documen	t to the	Clerk	of Co	urt using	the ECI	System	for filin	ng	and transmittal	of a Notice	of E	lectronic
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